[7590-01-P]

NUCLEAR REGULATORY COMMISSION

[NRC-2021-0117]

Acceptability of ASME Code Section III, Division 5, High Temperature Reactors

AGENCY: Nuclear Regulatory Commission.

ACTION: Supplement to draft regulatory guide; request for comment.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is issuing for public comment supplemental information for draft regulatory guide (DG), DG-1380 (proposed Revision 2 to Regulatory Guide [RG] 1.87), "Acceptability of ASME Code Section III, Division 5, 'High Temperature Reactors.'" This DG endorses, with conditions, the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (ASME Code) Section III, "Rules for Construction of Nuclear Facility Components," Division 5, "High Temperature Reactors," and Code Cases N-861 and N-862. On August 20, 2021, the NRC published DG-1380 requesting public comment. Since then, the NRC staff has reviewed Code Cases N-872 and N-898 for potential endorsement. This supplemental notice informs the public that the NRC staff is considering endorsement of these two additional Code Cases in the final RG 1.87 (Revision 2) and requests comments on the proposed endorsement and revisions.

DATES: Submit comments by **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**. Comments received after this date will be considered if it is practical to do so, but the NRC is able to ensure consideration only for comments received on or before this date.

ADDRESSES: You may submit comments by any of the following methods; however, the NRC encourages electronic comment submission through the **Federal rulemaking website**:

- **Federal rulemaking website:** Go to https://www.regulations.gov and search for Docket ID **NRC-2021-0117**. Address questions about Docket IDs in Regulations.gov to Stacy Schumann; telephone: 301-415-0624; email: Stacy.Schumann@nrc.gov. For

technical questions, contact the individuals listed in the "For Further Information Contact" section of this document.

- **Mail comments to:** Office of Administration, Mail Stop: TWFN-7-A60M, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, ATTN: Program Management, Announcements and Editing Staff.

For additional direction on obtaining information and submitting comments, see "Obtaining Information and Submitting Comments" in the SUPPLEMENTARY INFORMATION section of this document.

FOR FURTHER INFORMATION CONTACT: Jeffrey Poehler, Office of Nuclear Regulatory Research, telephone: 301-415-8353, email: Jeffrey.Poehler@nrc.gov, Robert Roche-Rivera, Office of Nuclear Regulatory Research, telephone: 301-415-8113, email: Robert.Roche-Rivera@nrc.gov, and Maryam Khan, Office of Nuclear Reactor Regulation, telephone: 301-415-6215, email: Maryam.Khan@nrc.gov. All are staff of the U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

SUPPLEMENTARY INFORMATION:

I. Obtaining Information and Submitting Comments

A. Obtaining Information

Please refer to Docket ID **NRC-2021-0117** when contacting the NRC about the availability of information for this action. You may obtain publicly available information related to this action by any of the following methods:

- **Federal Rulemaking Website:** Go to https://www.regulations.gov and search for Docket ID **NRC-2021-0117**.

- **NRC's Agencywide Documents Access and Management System (ADAMS):** You may obtain publicly available documents online in the ADAMS Public Documents collection at https://www.nrc.gov/reading-rm/adams.html. To begin the search, select "Begin Web-based ADAMS Search." For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by email to PDR.Resource@nrc.gov. The ADAMS accession number

for each document referenced (if it is available in ADAMS) is provided the first time that it is mentioned in this document.

- **NRC's PDR:** You may examine and purchase copies of public documents, by appointment, at the NRC's PDR, Room P1 B35, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852. To make an appointment to visit the PDR, please send an email to PDR.Resource@nrc.gov or call 1-800-397-4209 or 301-415-4737, between 8:00 a.m. and 4:00 p.m. (ET), Monday through Friday, except Federal holidays.

B. Submitting Comments

The NRC encourages electronic comment submission through the **Federal rulemaking website** (https://www.regulations.gov). Please include Docket ID **NRC-2021-0117** in your comment submission.

The NRC cautions you not to include identifying or contact information that you do not want to be publicly disclosed in your comment submission. The NRC will post all comment submissions at https://www.regulations.gov as well as enter the comment submissions into ADAMS. The NRC does not routinely edit comment submissions to remove identifying or contact information.

If you are requesting or aggregating comments from other persons for submission to the NRC, then you should inform those persons not to include identifying or contact information that they do not want to be publicly disclosed in their comment submission. Your request should state that the NRC does not routinely edit comment submissions to remove such information before making the comment submissions available to the public or entering the comment into ADAMS.

II. Additional Information

The NRC is issuing for public comment supplemental information to a draft guide in the NRC's "Regulatory Guide" series. This series was developed to describe methods that are acceptable to the NRC staff for implementing specific parts of the agency's regulations, to explain techniques that the staff uses in evaluating specific issues or

postulated events, and to describe information that the staff needs in its review of applications for permits and licenses.

The proposed Revision 2 to RG 1.87, entitled "Acceptability of ASME Code Section III, Division 5, 'High Temperature Reactors,'" is temporarily identified by its task number, DG-1380 (ADAMS Accession No. ML21091A276). Its regulatory analysis may be found in ADAMS under Accession No. ML21091A277. On August 20, 2021, the NRC published DG-1380 for public comment (86 FR 46888). DG-1380 endorsed, with conditions, the ASME Code Section III, Division 5, and Code Cases N-861 and N-862. Since then, the NRC staff has reviewed Code Cases N-872 and N-898 for potential endorsement. This supplemental notice for DG-1380 informs the public that the NRC staff is considering the endorsement of these two additional Code Cases in the final RG 1.87 (Revision 2) and provides supplemental information addressing the proposed endorsement and revisions. The technical basis for the NRC's proposed endorsement of Code Cases N-872 and N-898 is contained in Technical Letter Report TLR-RES/DE/REB-2022-01, "Review of Code Cases Permitting Use of Nickel-Based Alloy 617 in Conjunction with ASME Section III, Division 5" (ML22031A137).

III. Request for Comment

The NRC staff welcomes comments on the following proposed endorsement and revisions to DG-1380.

In Section C of DG-1380, the staff is proposing to (1) add a new Table 1, "Acceptable ASME Code, Section III, Division 5 Code Cases," to list Code Case N-872, which the staff proposes to endorse without conditions; (2) renumber what was previously designated as Table 1 in DG-1380 to Table 2, "Conditionally Acceptable ASME Code, Section III, Division 5 Code Cases"; and (3) add Code Case N-898 with proposed conditions in the renumbered Table 2 as follows:

Table 1. Acceptable ASME Code, Section III, Division 5 Code Cases

Code Case Number	Code Case Title	Supplement/Edition

N-872	Use of 52Ni-22Cr-13Co-9Mo Alloy 617 (UNS N06617) for Low Temperature Service Construction, Section III, Division 5."	0/2017

Table 2. Conditionally Acceptable ASME Code, Section III, Division 5 Code Cases

Code Case Number	Code Case Title/Limitation	Supplement/Edition
…	…	…
N-898	*Use of Alloy 617 (UNS N06617) for Class A Elevated Temperature Service Construction Section III, Division 5* When applying HBB-T-1710 and HBB-4800 to Alloy 617 components, applicants and licensees should develop their own plans to address the potential for stress relaxation cracking in their designs. These plans should address factors such as weld joint design and controls on welding in addition to the required heat treatment of HBB-4800. When applying HBB-T-1836(2)(-b), the equation for plastic strain in the code case should be replaced with the following equation: $for\ \sigma > \sigma_1\ , \varepsilon_p = -\frac{1}{\delta} ln\left(1 - \frac{\sigma - \sigma_1}{\sigma_p - \sigma_1}\right)$	4/2019

IV. Backfitting, Forward Fitting, and Issue Finality

DG-1380, if finalized, would not constitute backfitting as defined in section 50.109 of title 10 of the *Code of Federal Regulations* (10 CFR), "Backfitting," and as described in NRC Management Directive (MD) 8.4, "Management of Backfitting, Forward Fitting, Issue Finality, and Information Requests" (ADAMS Accession No. ML18093B087); constitute forward fitting as that term is defined and described in MD 8.4; or affect the issue finality of any approval issued under 10 CFR part 52, "Licenses, Certificates, and Approvals for Nuclear Power Plants." The guidance would not apply to any current licensees or applicants or existing or requested approvals under 10 CFR part 52, and

therefore, its issuance cannot be a backfit or forward fit or affect issue finality. Further, as explained in DG-1380, applicants and licensees would not be required to comply with the positions set forth in DG-1380.

Dated: February 23, 2022.

For the Nuclear Regulatory Commission.

Meraj Rahimi,

Chief,

Regulatory Guide and Programs Management Branch,

Division of Engineering,

Office of Nuclear Regulatory Research.

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